1906

HAINES-HOUSER

Combined Harvesters

HOUSER & HAINES MF'G. CO.

Stockton, Cal. .... Walla Walla, Wash.

400

16 pp.

G. W. HAINES,

VICE PRESIDENT AND GENERAL MANAGER.

One convincing proof of the excellence of the HAINES-HOUSER COMBINED HARVESTER is the fact that they appeal to the most mechanical minds. A Harvester is a Machine. The more a man understands about the principles of Mechanics, the better he appreciates the way in which the HAINES-HOUSER HARVESTER is made.

OUR CLAIMS OF SUPERIORITY

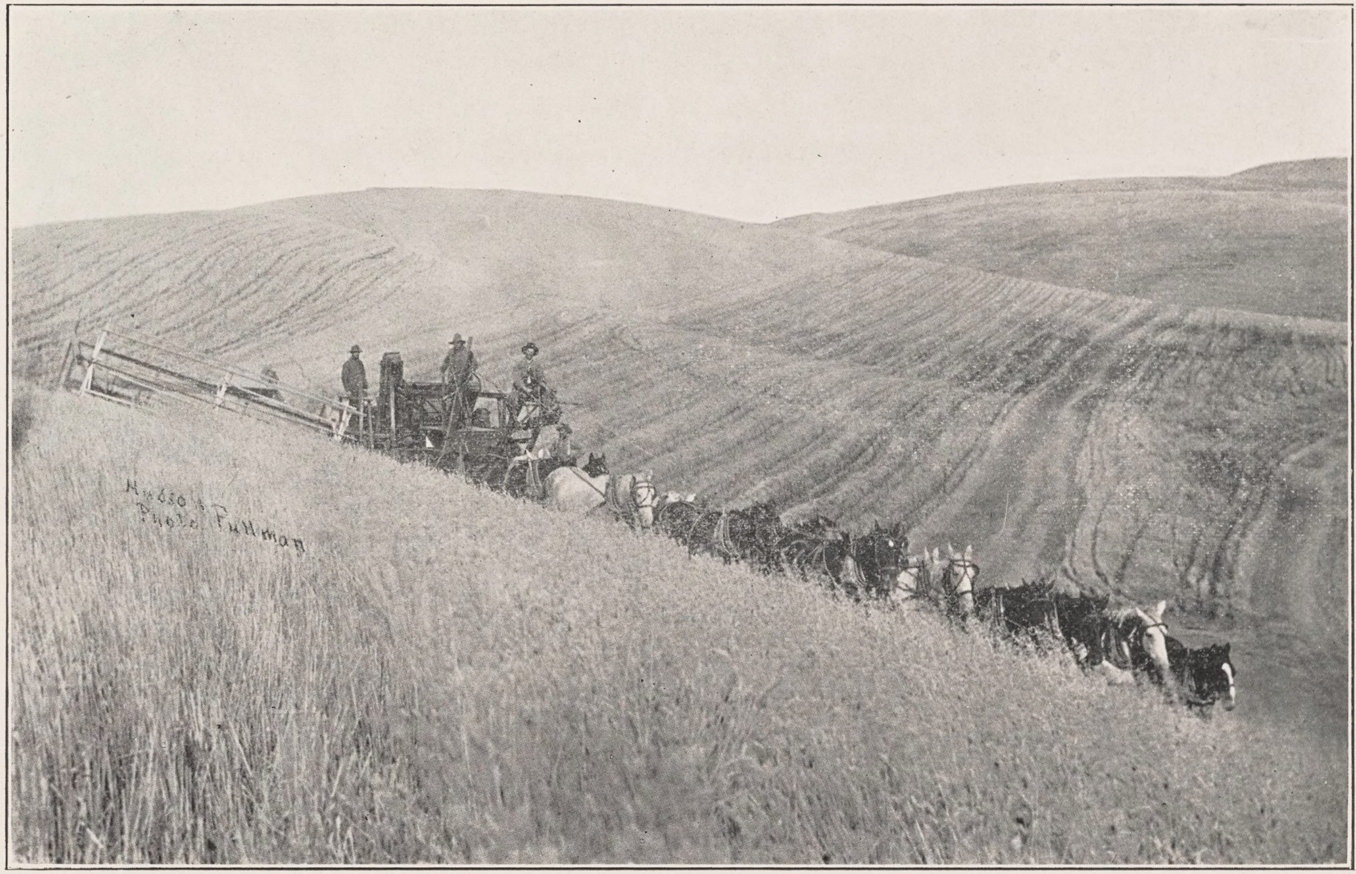
SIMPLICITY The entire absence of complications; the accessibility to all parts, and the ease, number and completeness of adjustments.

CAPACITY The ability to handle an unlimited amount of grain and straw without choking, with complete separation and no loss of grain.

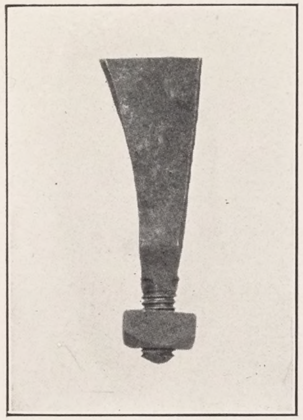
ECONOMY The light draft and consequent small number of horses required; the small cost of repairs; the grain saving ability and thorough cleaning.

EFFICIENCY The ability under all conditions of land and grain, to save, clean and reclean the grain at the smallest cost.

DURABILITY The good construction, of the best material properly proportioned, giving unlimited life with minimum cost of repairs and no loss of time.



A COMPLETE HARVEST IN ONE OPERATION
CUTTING CLEANING
THRESHING RECLEANING
SEPARATING SACKING
AT A COST OF SIXTY TO EIGHTY-FIVE CENTS PER ACRE



THE COMBINED HARVESTER, when built on those principles which make it able to operate satisfactorily in all kinds of down grain and weeds, on side hills or level land, is recognized as the most wonderful, and the greatest money and labor saving machine ever used by the farmer. Combined Harvesters, which will not under all conditions of land and grain perform their work of threshing thoroughly, saving entirely and cleaning perfectly are cheap imitators, poorly built and ill designed.

The design and construction perfected during the last 20 years in the Combined Harvester has been due more to one man than any other; to Mr. George W. Haines, who has been since 1880, identified with the manufacture of this type of farming implement. The HAINES-HOUSER HARVESTER embodies and portrays the result of his efforts.

Both in the shops and in the harvest field our Machines are ever a study to us, that we may find ways whereby this part may be simplified, or that part changed so as to increase, if possible, the high efficiency of our Machines. All improvements involving radical changes, suggested by field conditions, are given one year's actual field trial before they are put on the market; in this way protecting the farmer from experiments and preserving our enviable reputation.

We are enabled, by reason of our well equipped plant and experienced workmen, to produce each year a Combined Harvester equipped with the very latest and most valuable improvements.

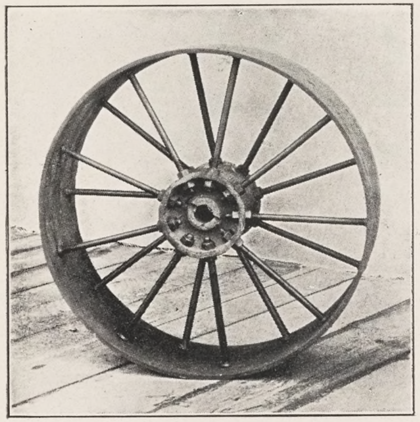
In California, the home of the Combined Harvester, there were sold in 1905 more HAINES-HOUSER HARVESTERS than all other makes combined. This, in connection with the fact that we were unable to supply the demand for our Machines last year, is evidence of the high value put upon our Machines by the farming community.

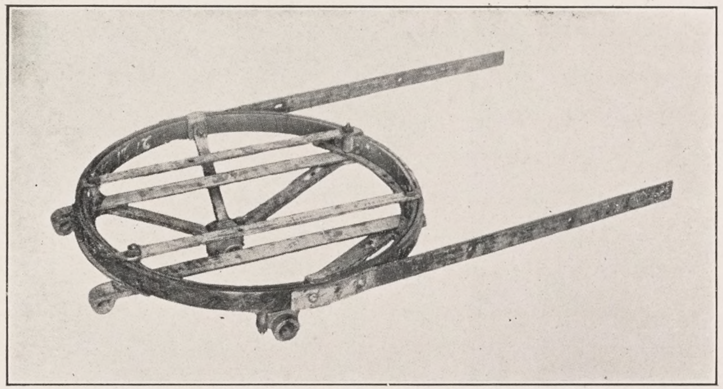
FRAME

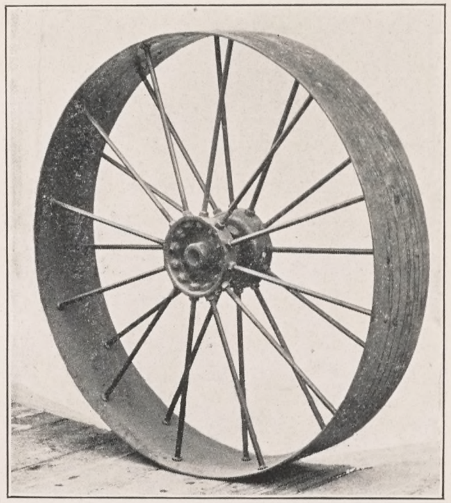
The foundation or frame work of any piece of machinery should be the first to interest an intending purchaser. We have always offered the best type of properly designed Separator Frames that were ever put under a Combined Harvester. The lumber we use in the building of our Separators is of the very best quality obtainable, every piece in the frame being properly proportioned to stand the strains of wear and travel, and each piece of wood is painted before being bolted in place. The decking over the Separator is removable in sections, thus giving ready access to the interior.

WHEELS

Next in importance to a good, substantial, well designed frame is the construction of the Wheels. Our Wheels have stood the test of years. Machines are in use to-day which were built nearly 20 years ago, and the Wheels have never been repaired. *The Main and Grain Tires* are of the very best tire steel, ⅜ to ⅝ in. thick and from 16 to 30 in. wide, depending upon the soil over which they are going to operate. They are well built of heavy material throughout, and properly proportioned. *The Header Wheel* is 57 in. high, with a 10 in. face, so it can travel over rough ground easily, and with less friction and draft than a small wheel. The Header Wheel turns on a forged wheel axle, accurately turned, with a polished surface. *Our Front Wheel* is the most durable made, and is of the same design and construction as all our other wheels. The Front Wheel operates in a Turn-Table built entirely of bar iron, to which the driver's ladder and seat is attached. This gives the advantage of having the driver over his team at all times, the seat swinging with the team.


FRONT WHEEL


TURN-TABLE


HEADER WHEEL

DRIVE

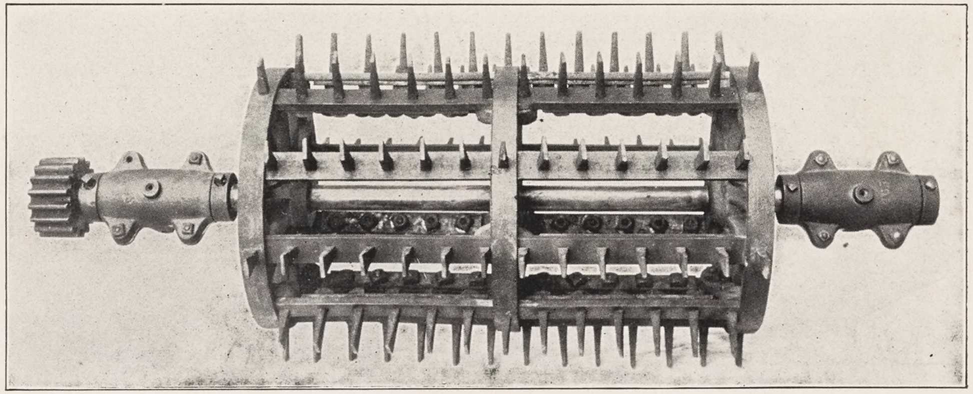
The power to drive the internal mechanism of our Machines is taken proportionately from each of the Main Drive Wheels. Each Wheel has its share of the work to do, which makes the Haines-Houser the only double drive Machine that is made, others being only partial double drive.

Our Standard Machine has a gear bolted to the Main Wheel which drives the main side of the Separator. By the use of the gear and large pinion we obtain a steady motion with the lightest possible friction and draft. By means of the three sliding boxes, the gear and pinion may be adjusted to take up any wear, so that they may always be made to mesh nicely.

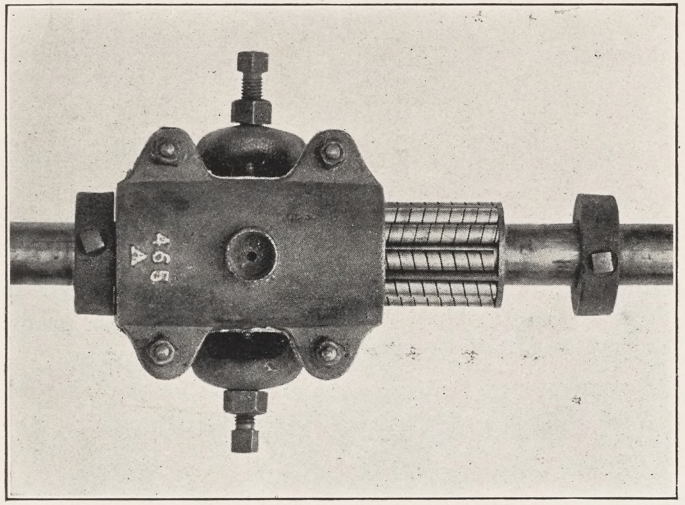
The Grain Wheel of our Standards and the Main and Grain Wheels of our Side Hill Machines have, bolted to their spokes, large ring sprockets which drive smaller sprockets on counter shafts, situated on the frame of the Machine. By means of a clutch on the Header counter-shaft and the Separator counter-shaft, the Shoe and Cylinder are always kept in motion on turning a corner, while the Draper and Sickle stop after making a few turns. This gives the Machine a chance to clear itself, and prevents any liability of clogging up. This flexibility also acts as a safety device in case of runaways.

CYLINDERS

Our Cylinders are constructed of heavy material and thoroughly built. They are composed of 10 bars, $1\frac{5}{8}$x$\frac{1}{2}$ in. bar iron, with three substantial cast iron heads keyed to a $1\frac{11}{16}$ in. shaft, in all our Machines except the Junior and Baby Side Hill. In these we use $1\frac{9}{16}$ in. shaft. The bars are punched to take the $\frac{9}{16}$ in. shank of our cylinder teeth, and the bars are held in place by three wrought iron bands $1\frac{1}{2}$x$\frac{1}{4}$, shrunk on to the heads. A plate washer is used between the nut and the bar, and each cylinder is balanced, trued up and run at a high rate of speed before being put into a Machine.



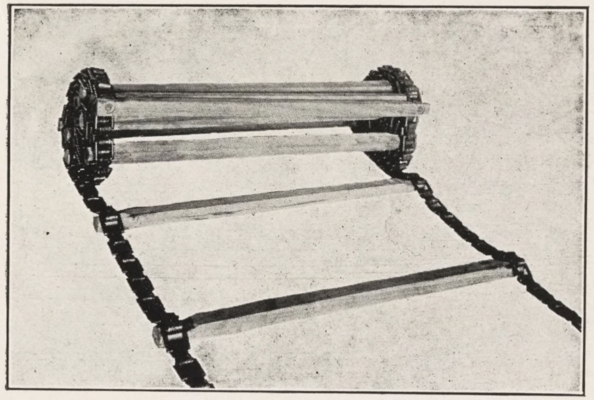
The Cylinder is driven by an Internal Gear and Pinion in which the teeth are accurately and correctly made. The Pinion may be adjusted so as to take up any wear, and so may be made to mesh properly. This Internal Gear and Pinion insures a positive, steady drive in all kinds of grain with the smallest amount of friction. The Concaves are of cast iron, heavily ribbed on the back, thus increasing the strength. Our Cylinder Teeth are made especially for our requirements. The shank is $\frac{9}{16}$ in. square, while the bolt and nut are $\frac{1}{2}$ in. They have a soft steel center with a hard steel lining on the outside. In this way we are able to use a tooth that is flexible and not brittle, which has great strength and a good wearing surface.



ROLLER BEARINGS AND BOX

ROLLER BEARINGS

At an increased cost we equip and use on our Cylinder, which runs at 950 R. P. M., under ordinary conditions, the best type of Roller Bearings in use to-day. By doing this we reduce the friction of this important part, and consequently the number of horses required; save the owner a large oil bill and make the heating of our Cylinder Boxes an unknown event. The Rollers are flexible, thus allowing a uniform distribution of load and reducing the wear to a minimum. Machines have come to our notice in which the Bearings had been in use five years and where it was impossible to detect any wear of the Rollers or even locate the position of the Bearing on the shaft. The Spirals, while acting as oil reservoirs, also act as oil distributors. Our Adjustable Cylinder Boxes are in addition pivoted, and are of the ball and socket type, adjusting themselves to the line of the shaft. They have been in use for ten years, giving entire satisfaction.



JACKSON FEEDER

FEEDERS

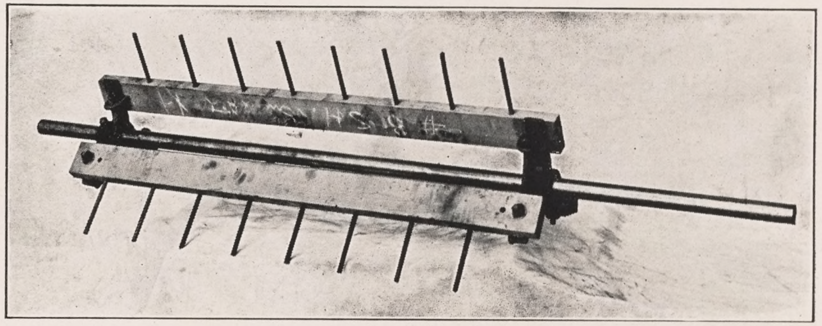
Our three Feeders consist of the following—the Draper, Jackson Feeder and Down Feeder. They are all made of the best material and by men experienced in this class of work. Our Jackson Feeder is made of malleable links, with Norway Iron couplings and special Norway Iron rivets, and with the best Hickory Sticks obtainable. All our 1906 Machines will be equipped with Gordon Patent Drapers, which have been used so successfully the past two seasons.

Top Drapers, or Feeders, used to assist the straw and grain up the Header Spout, are seldom required on a Haines-Houser Harvester, owing to the design and construction of our Headers. In some cases, where it is necessary to handle a great deal of straw on hillsides, Top Drapers are often an assistance and are sent when ordered.

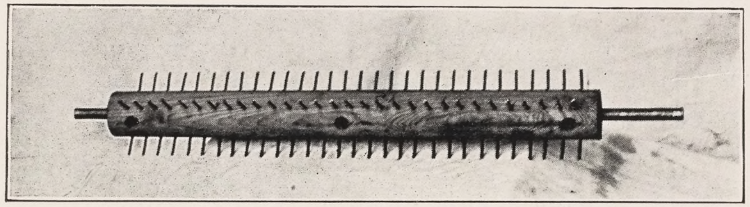
BEATERS

Our Machines contain three Beaters and one Picker. Their presence is a necessity for complete separation and in handling heavy down grain.

Front Beater, situated just behind the Cylinder, helps the Grain Carrier in conveying the straw and assists the separation by spreading the grain the entire width of the Separator. The Arms of this Beater are sheet ironed. The Heads are strong and are used on a $1\frac{3}{16}$ inch Shaft. *Top Beater*, just in front of the Picker and near the upper end of the Grain Carrier, also assists in conveying the straw and making the separation more complete. *The Picker* is round, extending the full width of the Separator, and has four rows of wire teeth. The Picker plays an important part in picking the straw to pieces, and in connection with our *Reverse Beater*, situated directly behind the Picker and over the front end of the Straw Carrier, makes the separation entirely complete.



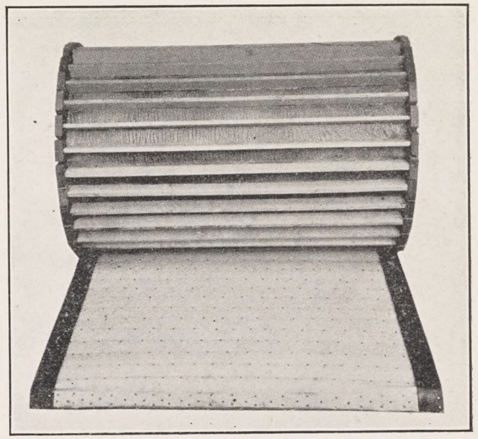
UPPER BEATER



PICKER

Then, by means of the Top Beater, Picker and Reverse Beater, we spread the straw as it passes from the Grain Carrier to the Straw Carrier in a thin, even sheet the full width of the Separators. This is the way we save the grain, as all grain is separated before passing on to the Straw Carrier. This secret makes the Haines-Houser Combined Harvester the unequaled grain saver, for which it is so justly celebrated.

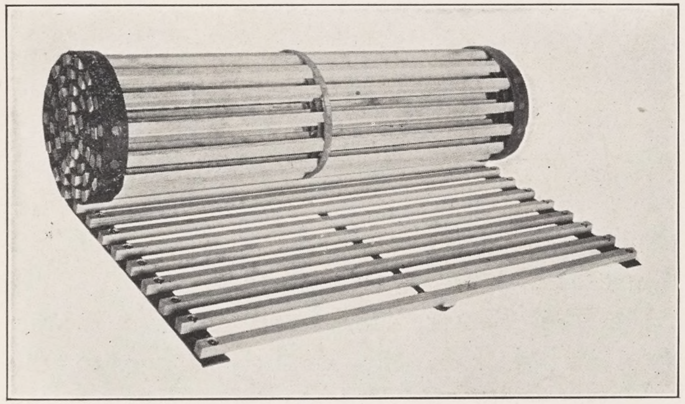
GRAIN CARRIER The Grain Carrier is made of the very best canvas, thoroughly glued and tacked to maple sticks, with sycamore ends, dowelled and glued. We use the best 2 in. Short Lap Belting. We use a single cell $1\frac{1}{2}$ in. deep, as it is lighter, more flexible and less liable to clog, every cell opening while passing over the pulleys. Our Grain Carriers are made the full width of the Separators, and are not blocked out two inches as in some Machines, thus reducing the capacity.



GRAIN CARRIER

STRAW CARRIER The Straw Carrier is well made of the best material obtainable. It is much stronger, more durable and longer than heretofore. It runs faster and carries out the straw more quickly, keeping it in a thinner layer, thus again increasing our separating capacity.

CONVEYORS Our Elevators are designed to convey the grain with the least possible friction and without spilling. Accessibility of these parts has always been kept in mind, and each Elevator may be opened both top and bottom with the least possible amount of trouble. This offers a ready means of examination while the Machine is in operation, and prevents many serious delays. The Elevators of our Side Hill Harvesters are so placed on the Machine that they will always clear the ground no matter what the steepness of the hill may be.

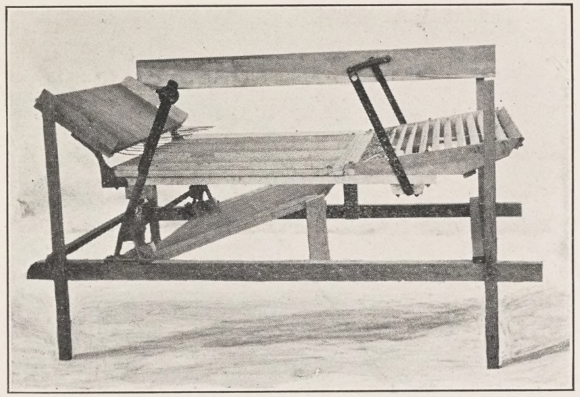


STRAW CARRIER

The Return or Chaff Elevator Runs in all of our 1906 Machines are sheet ironed. This means a reduction of friction and increased wear for the Blocks and Runs.

The long chain previously used to drive the Grain Elevator, Grain Carrier, etc., has been discontinued, we accomplishing the same results by short chains and a new counter-shaft. This affords the simplest and most accessible drive yet devised for the internal mechanism of a Combined Harvester.

Augers are of light but durable construction, the flights being punched from sheet steel. The Auger Boxes are so designed as to limit the chances of spilling or choking.



HOUSER & HAINES SHOE AND SHAKE

SEPARATOR SHOE

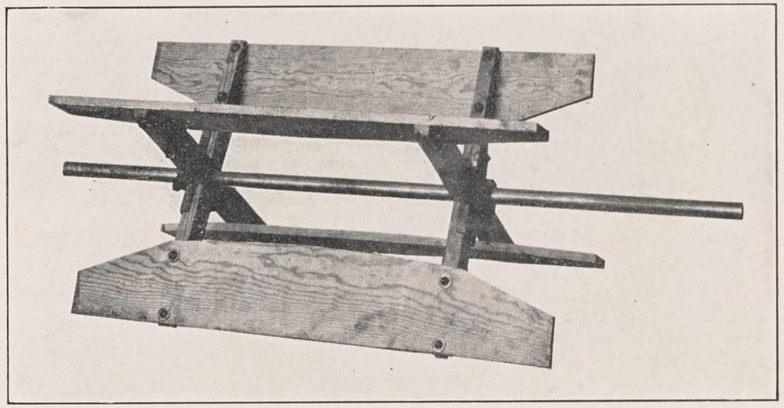
Our Separator Shoe is well known. It has an end shake, which gives it an upward movement behind. Being built in three sections, the wire screen, wire fingers, and an extension of maple slats laid at an angle, it forms what has been called a Double Shoe, owing to its length and capacity. It occupies the entire width of the Separator, and is $4\frac{1}{2}$ feet in length.

SEPARATOR FAN

The Separator Fan is strongly and lightly built on a $1\frac{1}{16}$ in. shaft. It is of the under-blast type and extends the full width of the machine. The Throat of our Fans are so constructed that the blast will separate the chaff from the grain before it reaches the Shoe, and keeps the chaff in motion until it finally reaches the chaff piler behind the Machine. The force of the blast is regulated by blinds on either side and at each end of the Fan, and may be adjusted while the Machine is in operation from the top of the Separator.

CLEANER FAN

The Cleaner Fan is mounted on the same size shaft as the Separator Fan and drives the Cleaner Shake, thus doing away with the old Cleaner Shake shaft. This is new, and will be used on all our 1906 Models. The Cleaner Fan is substantial and extends the full width of the Cleaner.



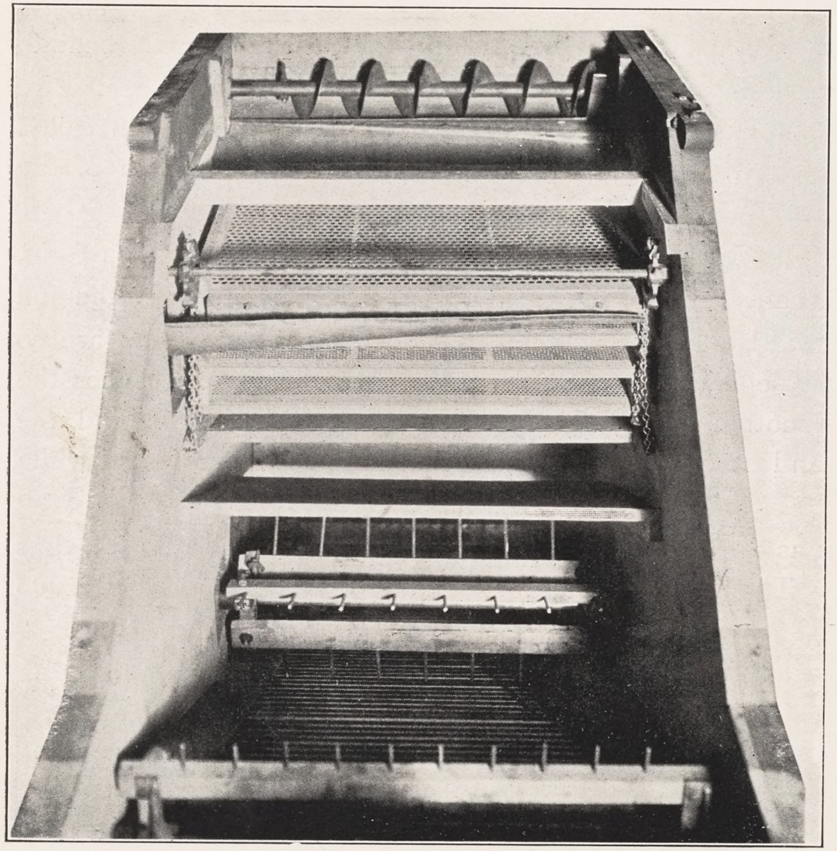
SEPARATOR FAN

BRAKES

Each of the Main Drive Wheels and the Lead Wheel is equipped with Brakes superior in design and operation to any ever put on a Combined Harvester. Our 1906 Models will have 8 inch Brake Bands instead of the 4 inch or 6 inch used previously. The Brakes on the Main Drive wheels are in reach of every man on the Machine.

GROUSERS

All our Main Drive Wheels are fitted to take $\frac{3}{8}$x$2\frac{1}{2}$ inch angle iron Grousers, which are punched to receive extensions for operating on extremely soft or sandy soil. The Grain Wheel of our Standard Machine is fitted with flat Grousers. Our Wheels are fitted to take a sand rim if desired. Grouser Extensions are made so as to fit, and may be put on in a few minutes while in the field.



CLEANER—SHOWING DISTRIBUTING AUGER, SCREENS, BEATERS AND GRAIN CARRIER

CLEANER Our Recleaner, situated, as it is, directly on top of the Separator and made a part thereof, was first used on the Haines-Houser Harvester, and has since been copied by all other Harvester builders, so its merits are unquestioned. Among its advantages may be mentioned the following: Stability, Increased Strength of the Separator and no Loose Joints, no Loss of Grain as in an open Cleaner, and Comfort and Cleanliness to the operators on the windiest days. Among the other distinctive features of our Cleaners may be mentioned the following:

First—The Shake for the double gangs of Screens is of the ball and socket type, in preference to the eccentric pattern. Its noiseless operation, reduction of friction and complete separation are its main superior qualities.

Second—Our Cleaner, being the boarded type and made a part of the Separator, prevents all leakage of grain such as takes place about an open Cleaner.

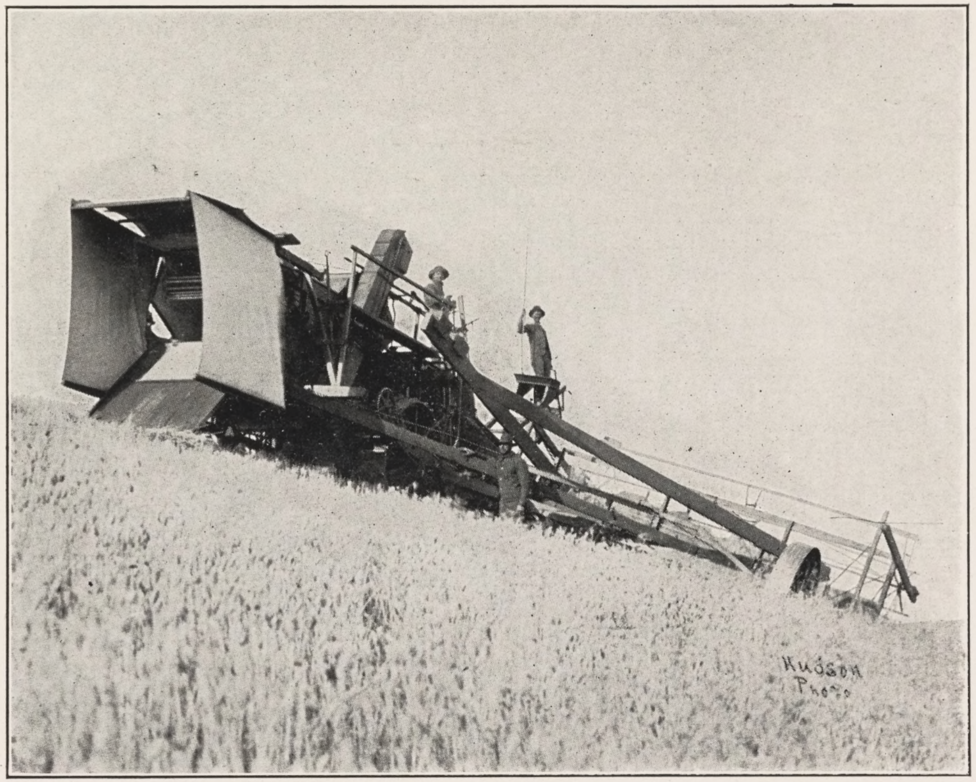
Third—The Screens are adjustable for hilly and level land, and instead of having to scrape the Screens in weedy grain, they may be freed by simply lowering the Screens momentarily.

Fourth—The Screens are all hinged in front, so are always kept the same distance apart. The Cheat Screen in our 1906 Cleaner, is hung from the frame of the screens above, so that the opening or distance between the Wheat or Barley Screens and the Cheat Screens, always remains the same when raising or lowering the screens. By means of this construction, we maintain a constant opening in the throat of the Fan, and the direction of the wind on the Screens is always relatively the same.

Fifth—These Screens extend almost the entire width of the Separator, allowing only enough room on either side to accommodate the Shake.

Sixth—Our Machines have a Distributing Auger in the top of the Cleaner, thus insuring a thin layer of grain over the entire surface of the screens.

A Platform and Hand Rail on either side of the Machine provides easy access to all its parts.



SWING STRAW DUMP

STRAW DUMP

We have originated and designed a Hanging or Swinging Canvas Straw Dump, which has been in use by us for the last ten years, for dumping straw in the field. These dumps are large and leave good ricks of straw, thus enabling the farmer to pick it up at small cost. Our Swing Dumps are entirely closed in, and, being situated right under the Shoe, save all the chaff from blowing across the field and over the Separator. Our Separator Frames are so constructed, that they will carry the extra weight of the Straw Dump without injury to the Machine.

HEADER

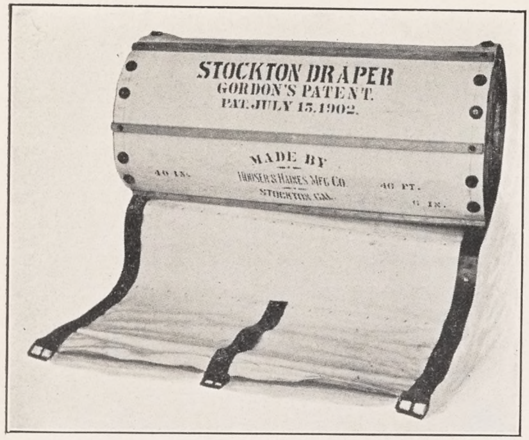
Simple, well designed and efficient, with a small number of parts, light and durable, situated nearly opposite the Main Drive Wheels, enabling us to cut in every case a good, square corner. The Front Wheel of our 1906 Models has been shifted one foot further forward, thus allowing the horses more room and reducing the chances of their coming in contact with the Reel. Our method of raising and lowering the Header, puts the Tiller Wheel in the hands of the operator, on top of the "Dog or Feed House" at the front of the Machine, from which position he commands an excellent view of all parts of the Machine and the field. The Header is so well balanced and designed that it responds to each touch of the operator in the least possible time and effort.

SICKLE BAR

Our Sickle Bar has ever been a source of admiration to all owners of "Green Machines," and is made of Angle Iron, rolled to our own specifications. The Guards are fastened to the Bar by two common stove bolts, so in case of breakage, a Guard can be replaced in a minute. This Houser & Haines Bar is the simplest, strongest, most durable and efficient made, and will cut closer, picking up in every case all the down grain.

Its many points of advantage are becoming so well known and appreciated, that we receive each year a large number of orders for equipping other makes of Machines with our Angle Steel Bar.

The Reel is well-made and strong, the tension of the rods being taken up by nuts at the Reel Heads.



DRAPER All our 1906 models will have a Gordon Patent Conical Washer Draper, which has proven to be the greatest Draper yet devised. There is no other Draper made that can compare with ours, owing to this Patent Washer and to the excellent quality of our Canvas, Sticks, Belting and Thorough Workmanship.

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We manufacture the following Models of Combined Harvesters:

LARGE STANDARD SMALL STANDARD
REGULAR SIDE HILL SMALL SIDE HILL
BABY SIDE HILL

STANDARD OR LEVEL LAND MACHINES.

There were twice as many Haines-Houser Level Land Machines sold on this Coast during the seasons of 1904 and 1905, as all other makes combined. This is accounted for in a measure by the lightness of our draft, due to, First—The Main Internal Gear Drive, Second—The Cylinder Internal Gear Drive, Third—The Cylinder Roller Bearings.

The Drive Wheels on all our Standard Machines are 6 ft. high, and have given the best of satisfaction. We have displaced the old style of Chains and Belt for the Main Drive, and are using now an Internal Gear, with a wide face and a large Pinion. A Link Belt for the second motion insures flexibility and provides a safe breaking point in case of a sudden start or jerk. This gives our Machines the advantage over the Link Belt Harvester in runaways, and positively guarantees against the breakage of the Gears.

The substitution of gearing in our Standard Machines has all the advantages of the old style gear Machine, reducing the draft, and gives a positive motion to the Cylinder without the extra friction found in Link Belt Machines. The friction thus overcome means a saving of from four to six animals, and we guarantee the Gear Drive to be as noiseless as any Link Belt Drive and to save approximately $30.00 a year in extras, which means a saving of $600.00 in extras during the life of a Machine.

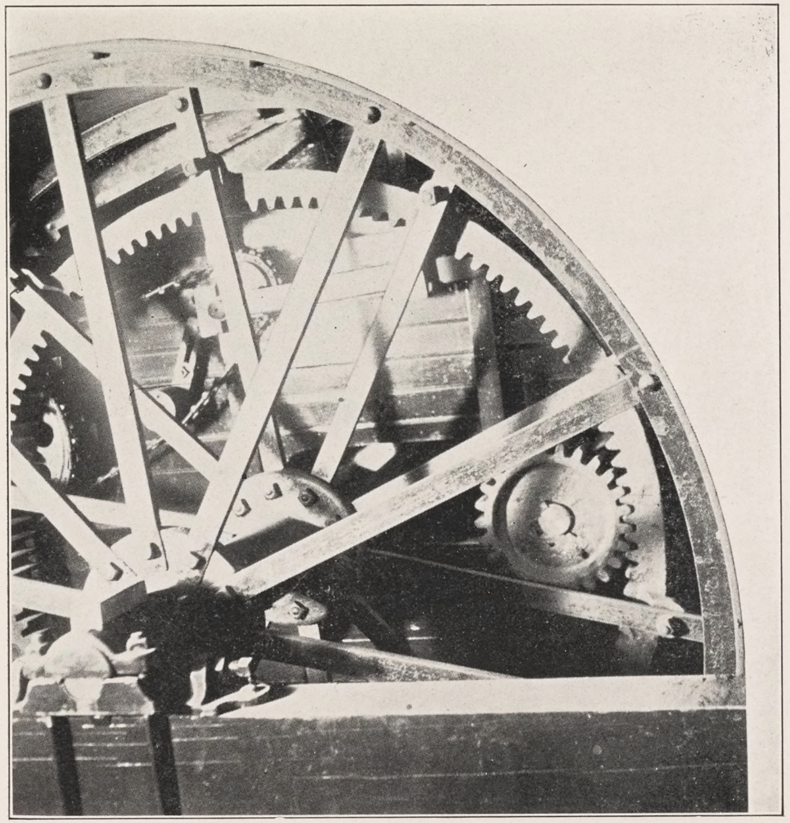
LARGE STANDARD Our largest Level Land Machine is capable of and has often finished a season's run with a better average day's work than some Steam Outfits. This is explained by the fact that the "Green Machine" is never compelled to stop in the Harvest Field to make repairs.

The LARGE STANDARD is of the following dimensions:

Separator	44 in.	Wheels, width	18 and 22 in.
Cylinder	30 in.	Wheels, height	6 ft.
Grain Carrier	44 in.	Cut	16 to 24 ft.
Shoe	44 in.	Horses required	24 to 30
Cleaner	44 in.	Capacity, acres per day	35 to 50

This Machine is designed for level land, and is the strongest Combined Harvester built to-day. It is designed for harvest work on rough or very soft soil, and is built of the very best material.

Houser & Haines Manufacturing Company, Stockton Cal.—Gentlemen: After giving your new Standard Gear Machine a thorough trial in all kinds of grain, I consider it the best Machine ever put in the Harvest Field. It runs light and works perfectly, and beats the old Chain Drive Machine. I can highly recommend it to anyone wishing a first-class Machine. Yours truly, MOORE & MALONEY, Lincoln, Cal.



MAIN INTERNAL GEAR AND PINION, STANDARD MACHINES

SMALL STANDARD

We build a smaller Level Land Machine which is the exact duplicate in every way of the Large Standard, differing only in the following dimensions:

Separator	40 in.
Cylinder	28 in.
Grain Carrier	40 in.
Shoe	40 in.
Cleaner	40 in.
Wheels, width	18 and 22 in.
Wheels, height	6 ft.
Cut	12 to 16 ft.
Horses required	16 to 20
Capacity, acres per day	15 to 35

This Harvester has proven a great Machine for those men with a limited amount of stock at their disposal, and for those who have small fields where it is necessary to use a Harvester with a small cut as in irrigated districts.

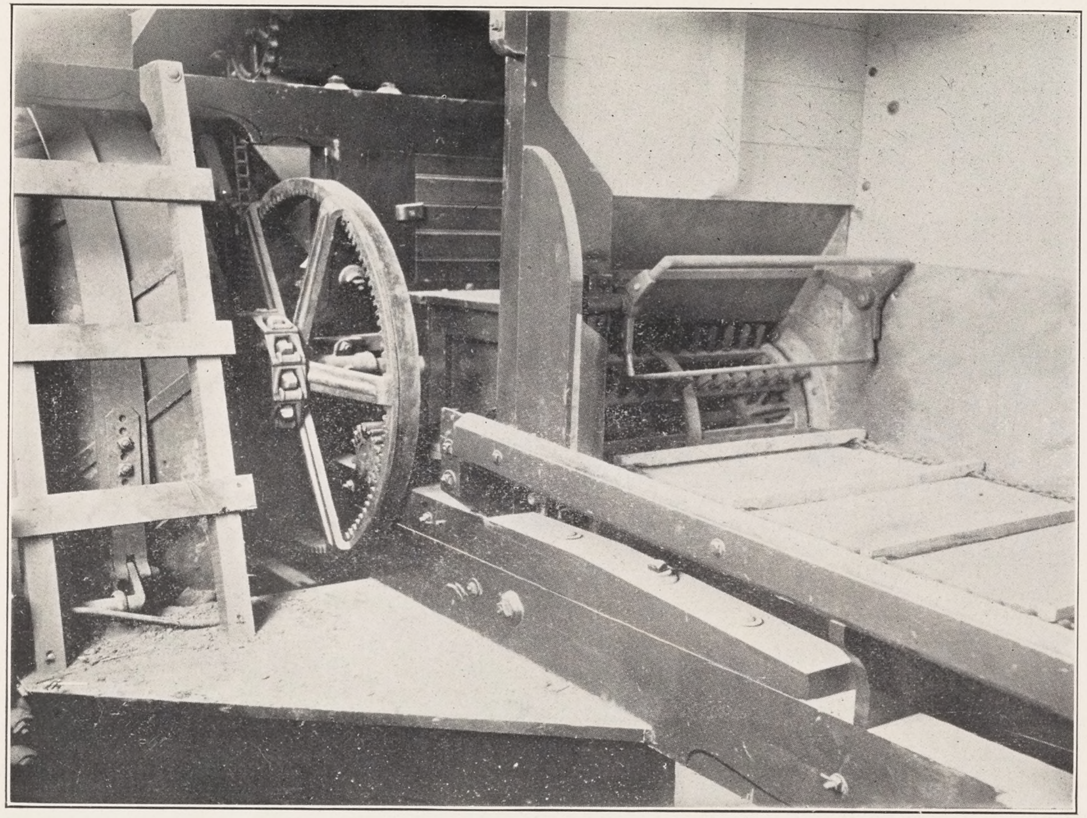
HOUSER & HAINES MANUFACTURING COMPANY, Stockton, Cal.—Gentlemen: It gives me great pleasure to have power to recommend the New Improved Small Standard Combined Harvester I bought of you last year. This Machine has no equal for saving grain and easy pulling, and we worked less stock than any other Machine in this vicinity. We cut 48 days and averaged 45 acres per day, and it will cost me absolutely nothing to put the Machine in the field next year. The Machine talks for itself when you look at it. Yours truly,

E. & A. W. MENDOZA, Madera, Cal.

SIDE HILL MACHINES

Our Side Hill Machines are marvelous in their lightness and simplicity, and enable the farmers with hilly land to harvest their crops at the same cost as those farmers farming on level land. The Main Wheel Boxes are placed under the Main Sills, thereby gaining in leveling capacity.

The Main Sills have been reinforced this year by a piece 3½ in. thick on the Regular and 2 in. thick on the Junior, these pieces being placed on top of the Main Sills, under and adjacent to the Cylinder. The Sills are further



CYLINDER, INTERNAL GEAR DRIVE, JACKSON FEEDER AND DOWN FEEDER

protected by two adjustable trusses from the Main Sills to the Cylinder Caps.

Our Wheels support a Swing Frame operated by Racks and Pinions, instead of the old type of screw. The Cleaner is part of the Separator, allowing more room for leveling.

We use Link Belting on both Drives, in order to allow the Frame to travel up and down. However, we use an Internal Gear and Pinion for the Cylinder Drive in which the teeth are made just right, and the Gear and Pinion may be adjusted to mesh to any required depth.

The leveling capacity of our Side Hill Machines is nothing short of marvelous, leveling up and working successfully on a 30 degree slope, and, in fact, can be used on any hill that can be plowed. Our Leveling Device is equipped with a locking mechanism, and is quick acting. It is easily operated and in reach of the Header man, is very strong and was first designed and used exclusively by us.

The Separator and all its parts may be kept level at all times, thus insuring good and complete work. Both Wheels being Drivers, each are provided with Grousers fitted to take extensions.

REGULAR SIDE HILL

This is our larger size of Side Hill Machines, and is especially adapted for larger hilly farms with good or moderately firm soil. The Main Sills and Swing Frames are both strengthened this year by the use of adjustable Truss Rods, and are well designed to resist any sudden strains. These Machines will handle lots of straw with very little extra draft, due to the long and heavy cylinder, wider separator and shoe.

Our Regular Two-Wheel Side Hill Machine is used with excellent results by men operating on low, rolling hills, where a Standard or Level Land Machine would be at a disadvantage, owing to its inability to level up at all times.

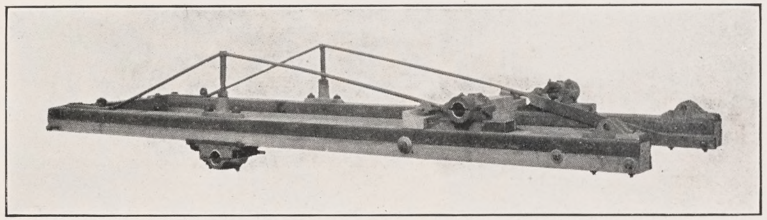
They have the following dimensions:

Separator	40 in.	Wheels, width	20 and 20 in.
Cylinder	28 in.	Wheels, height	5 ft. 4 in.
Grain Carrier	40 in.	Cut	16 to 24 ft.
Shoe	40 in.	Horses required	26 to 32
Cleaner	40 in.	Capacity, acres per day	30 to 40

Houser & Haines Manufacturing Company, Stockton, Cal.—Gentlemen: We wish to express our satisfaction with the Regular Side Hill Machine bought of you last May. We have used it on level ground, in the hills and also in sandy land, and find it satisfactory in every respect. Sincerely yours, LAMB BROS. & McCRANEY, Newman, Cal.

SMALL SIDE HILL

The Haines-Houser Junior Side Hill Combined Harvester is the recognized standard of all harvesting machinery, and approaches more nearly to perfection than any Machine yet devised. Without a doubt, it is the most perfect Harvester yet designed, in which lightness of draft, simplicity, grain saving and cleaning abilities are unexcelled. It is of the same general type as our Regular, but of smaller dimensions, designed especially for the requirements to be met in good standing grain and small farms. In fact, it was built especially for Oregon, Washington and Idaho farmers who have to handle comparatively little straw for a large yield of grain, and where the ground is so soft that a light Machine is an absolute necessity.



BABY SIDE HILL SWING FRAME.

The Header in our 1906 Model has been shifted 10 in. further from the Machine, thus reducing the pitch of the Spout and allowing the team more room.

The Swing Frame timbers finish 3 in. instead of 2½, and fill up the Channel Iron nicely, adding strength to this important part.

The dimensions are as follows:

Separator	36 in.	Wheels, width	16 and 16 in.
Cylinder	26 in.	Wheels, height	5 ft. 4 in.
Grain Carrier	36 in.	Cut	12 to 16 ft.
Shoe	36 in.	Horses required	18 to 24
Cleaner	36 in.	Capacity, acres per day	25 to 35

The Houser & Haines Manufacturing Company, Walla Walla, Wash.—Dear Sirs: In answer to the many inquiries of how I progressed with my Harvester, I would say for the benefit of all, that I have cut 1100 acres with my Small Side Hill Combined Harvester, purchased of you this season, in 27 days, at a cost of about 80 cents per acre, or just about half compared with the old method of heading and threshing. I now feel that I can cheerfully endorse the statement of your agent made to me several years ago, that is: "You can pile your Headers and Threshers up and set fire to them and be ahead by harvesting with a Combined Harvester." My stock came off in good condition. My moves absorbed two days of above time, and the repairs have been absolutely nothing for the season's run. (Signed) W. G. OFFUT, Lind, Wash.

HOUSER & HAINES MANUFACTURING COMPANY, Walla Walla, Wash.—Gentlemen: Our Junior Side Hill Harvester is in successful operation and is just as good as the day we got it. We have the honor of threshing the first grain in this section. Mouey could not buy our Machine if we could not get another. It is the most perfect Harvester in existence.

Yours very truly, FERGUSON BROS, Colton, Wash.

BABY SIDE HILL

We herewith make the prophecy, *that many of the designs embodied in our Smallest Side Hill Machine will find their way into other models, and into the models of our competitors during the next two years.* We believe that we have a model for a light Machine, which, for its lightness, will be by far the strongest yet devised. While the Main Sill is lighter, the necessary strength is obtained from the upper rail of the Separator, which is larger than used heretofore. The upper rail is carried straight through the length of the Separator, and as the Cleaner is made a part of the Separator, we obtain all the necessary strength that is required, with a noticeable reduction in the weight of the Machine.

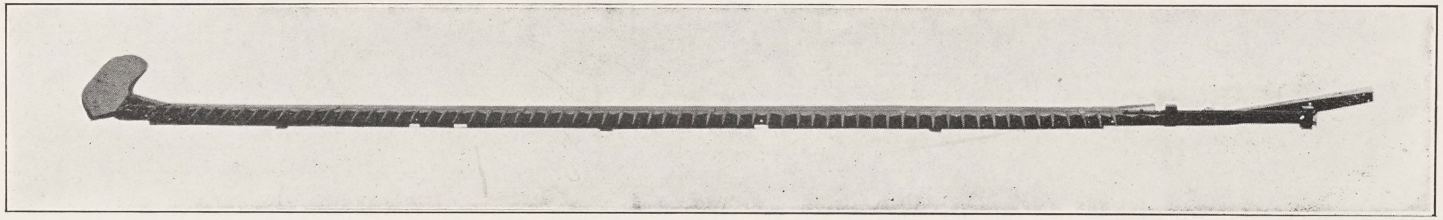
Our new Swing Frame made of Channel Iron and Clear Oregon Pine with Adjustable Truss Rods extending its full length, is the best and strongest yet devised. A special bulletin devoted to our Baby Side Hill Harvester will be furnished on application.

The dimensions are as follows:

Separator	30 in.	Wheels, width	16 and 16 in.
Cylinder	24 in.	Wheels, height	5 ft. 4 in.
Grain Carrier	30 in.	Cut	12 and 14 ft.
Shoe	30 in.	Horses required	14 to 20
Cleaner	30 in.	Capacity, acres per day	20 to 30

HOUSER & HAINES MANUFACTURING COMPANY, Stockton, Cal.—Gentlemen: In answer to your inquiry will state that we had 20 horses on the Baby Machine, though I believe it could be operated with 16 or 18 very successfully. Our stock was a mixed lot and some very small ones among them. The Machine did very good work after we understood it and made several adjustments.

Yours very truly, ALFRED MAST, Pope Valley, Cal.



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